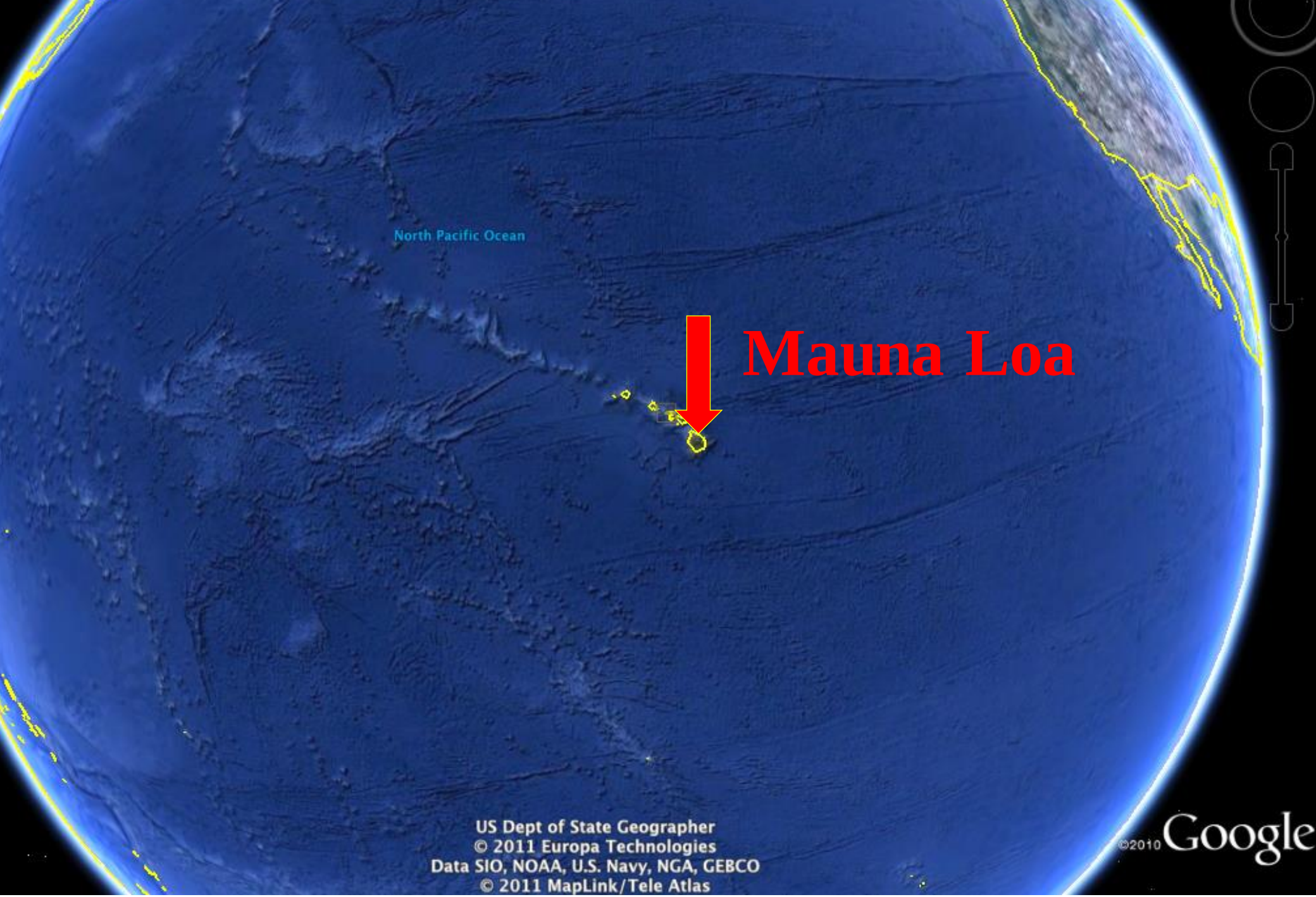
Foreste, clima e transizione ecologica

Renzo Motta

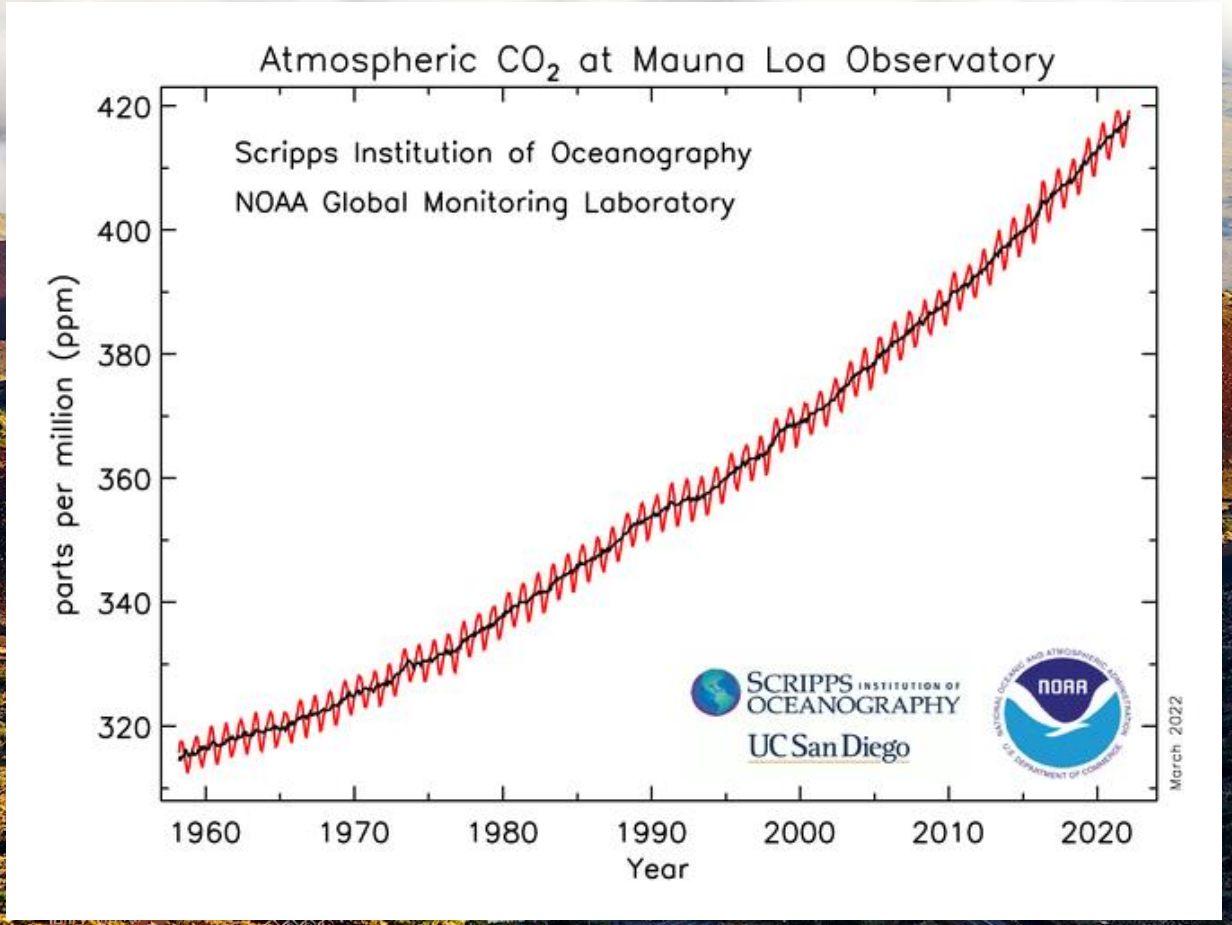
Università di Torino
SISEF
Fond. Alberitalia


North Pacific Ocean
Mauna Loa
US Dept of State Geographer
© 2011 Europa Technologies
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2011 MapLink/Tele Atlas
©2010 Google

Annu. Rev. Energy Environ. 1998. 23:25–82

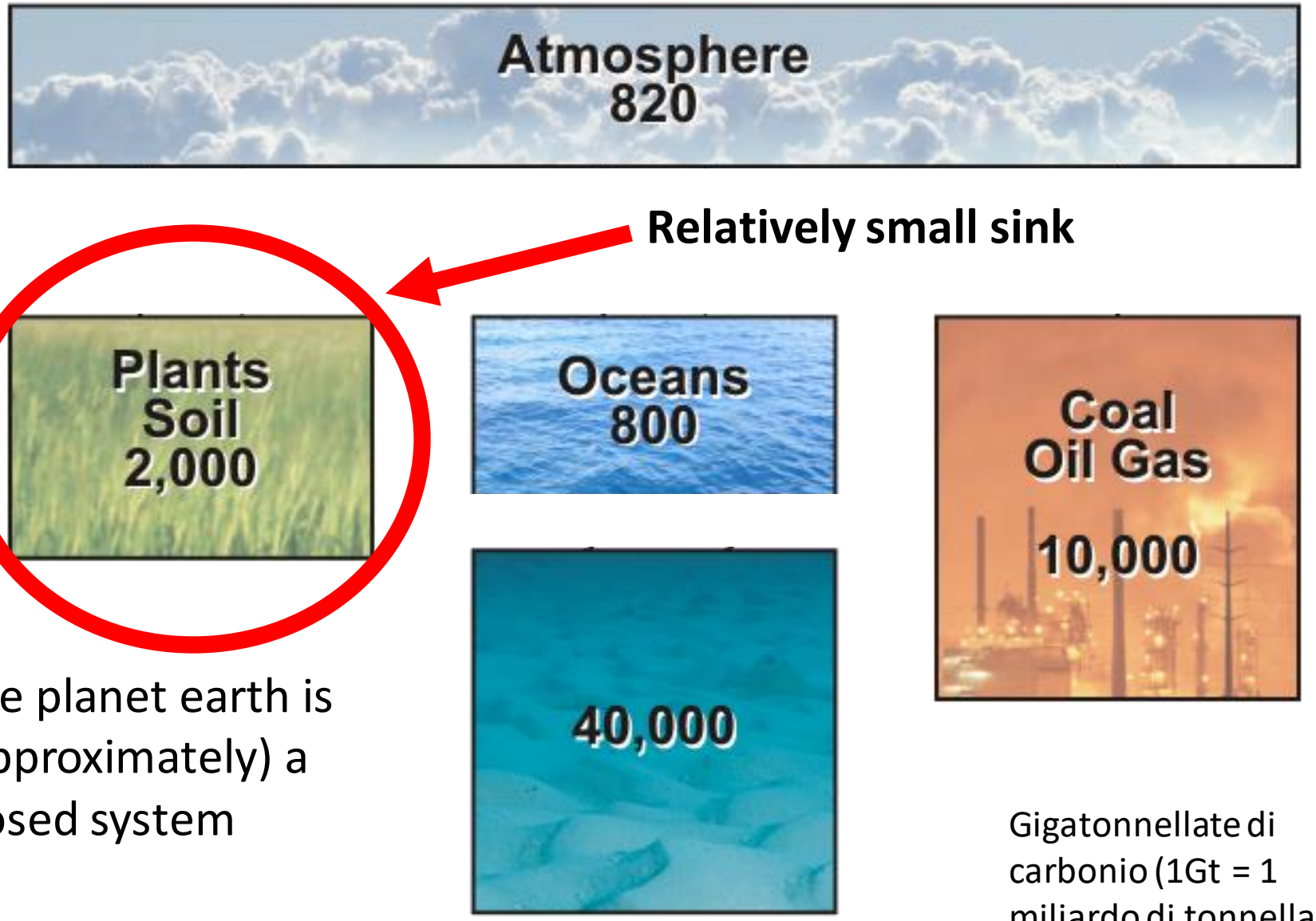
REWARDS AND PENALTIES OF MONITORING THE EARTH

Charles D. Keeling
Scripps Institution of Oceanography, La Jolla, California 92093-0220



COP 26 Glascow: le foreste al centro del mondo

Global sinks of carbon

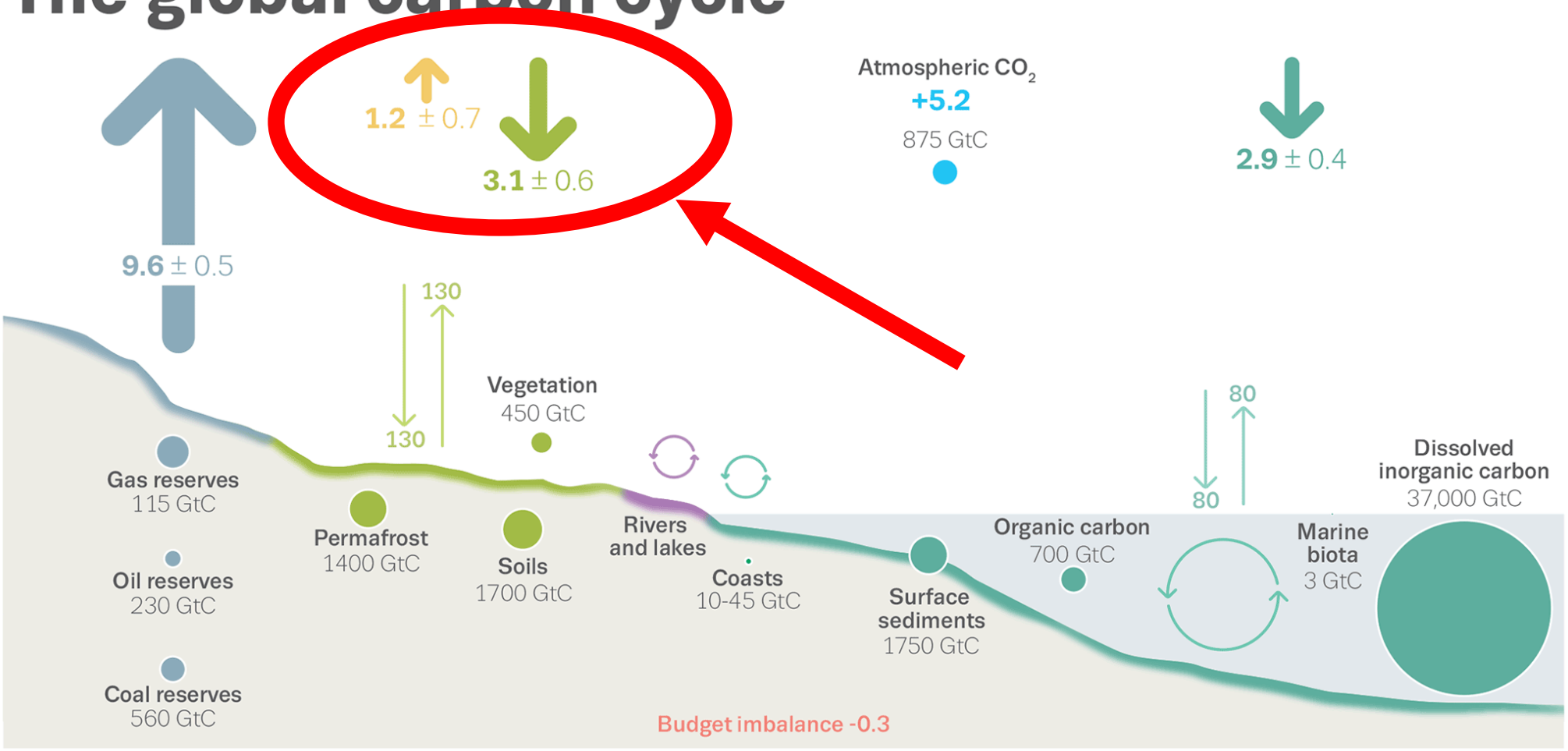


The planet earth is (approximately) a closed system

Gigatonnellate di carbonio (1Gt = 1 miliardo di tonnellate)

https://cdiac.ess-dive.lbl.gov/carbon_cycle.html

The global carbon cycle



Anthropogenic fluxes 2012-2021 average GtC per year

- Fossil CO_2 E_{FOS}
- Land-use change E_{LUC}
- Carbon cycling GtC per year
- Atmospheric increase G_{ATM}
- Land uptake S_{LAND}
- Ocean uptake S_{OCEAN}
- Stocks GtC
- Budget Imbalance B_{IM}

Fate of anthropogenic CO_2 emissions (2011–2020)

Sources = Sinks

34.8 $GtCO_2$/yr

89%

11%

4.1 $GtCO_2$/yr

18.6 $GtCO_2$/yr

48%

29%

11.2 $GtCO_2$/yr

26%

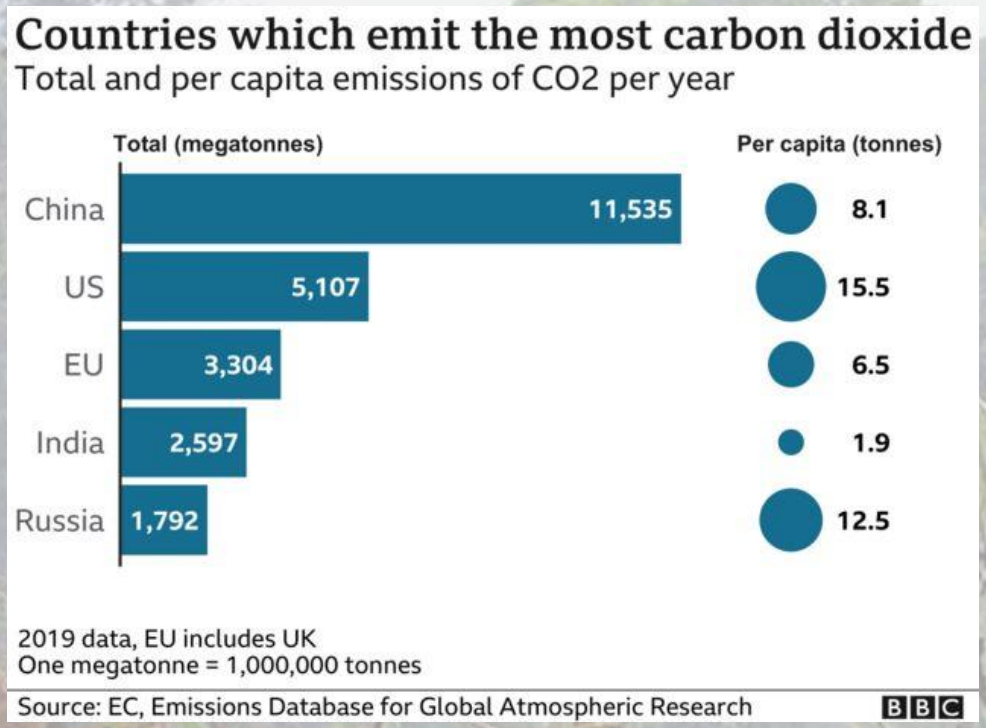
10.2 $GtCO_2$/yr

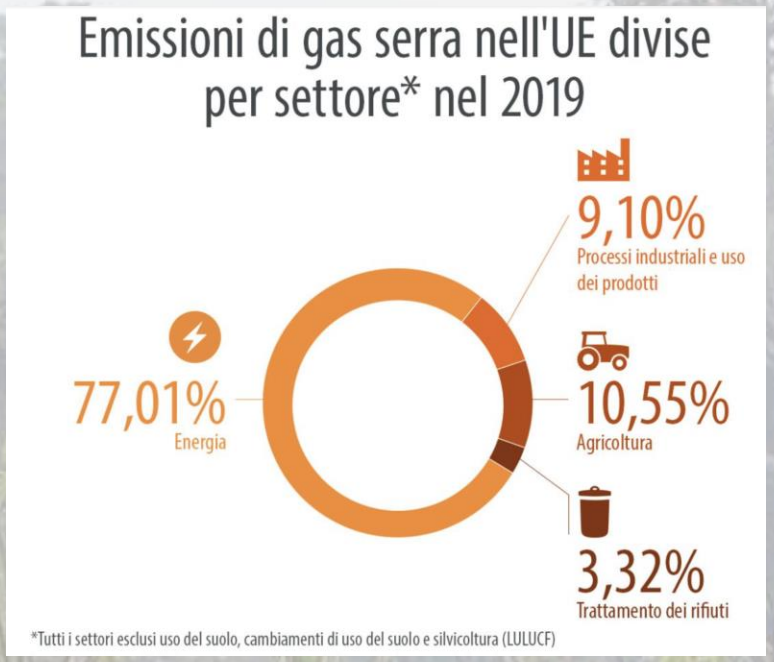
Budget Imbalance:
(the difference between estimated sources & sinks)

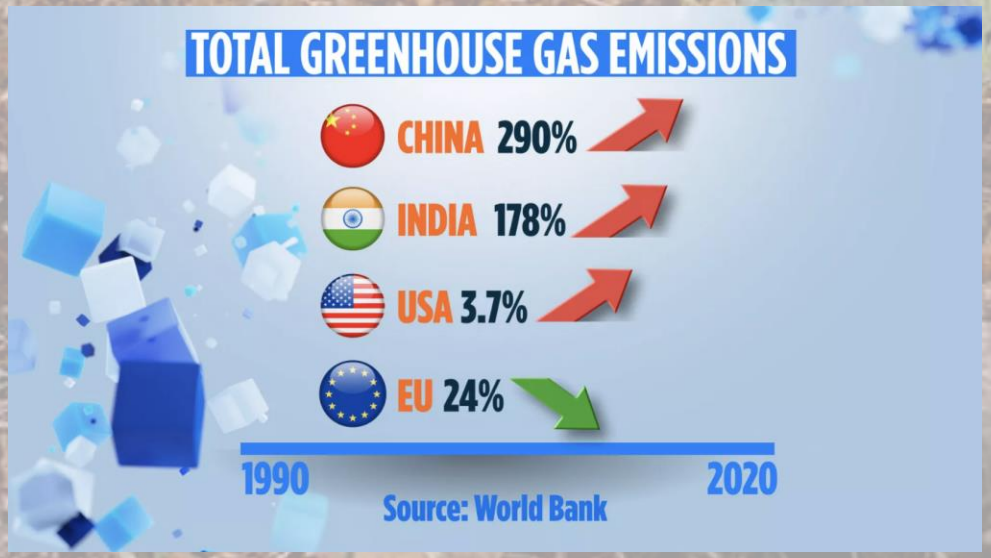
3%

-1.0 $GtCO_2$/yr

Source: Friedlingstein et al 2021; Global Carbon Project 2021





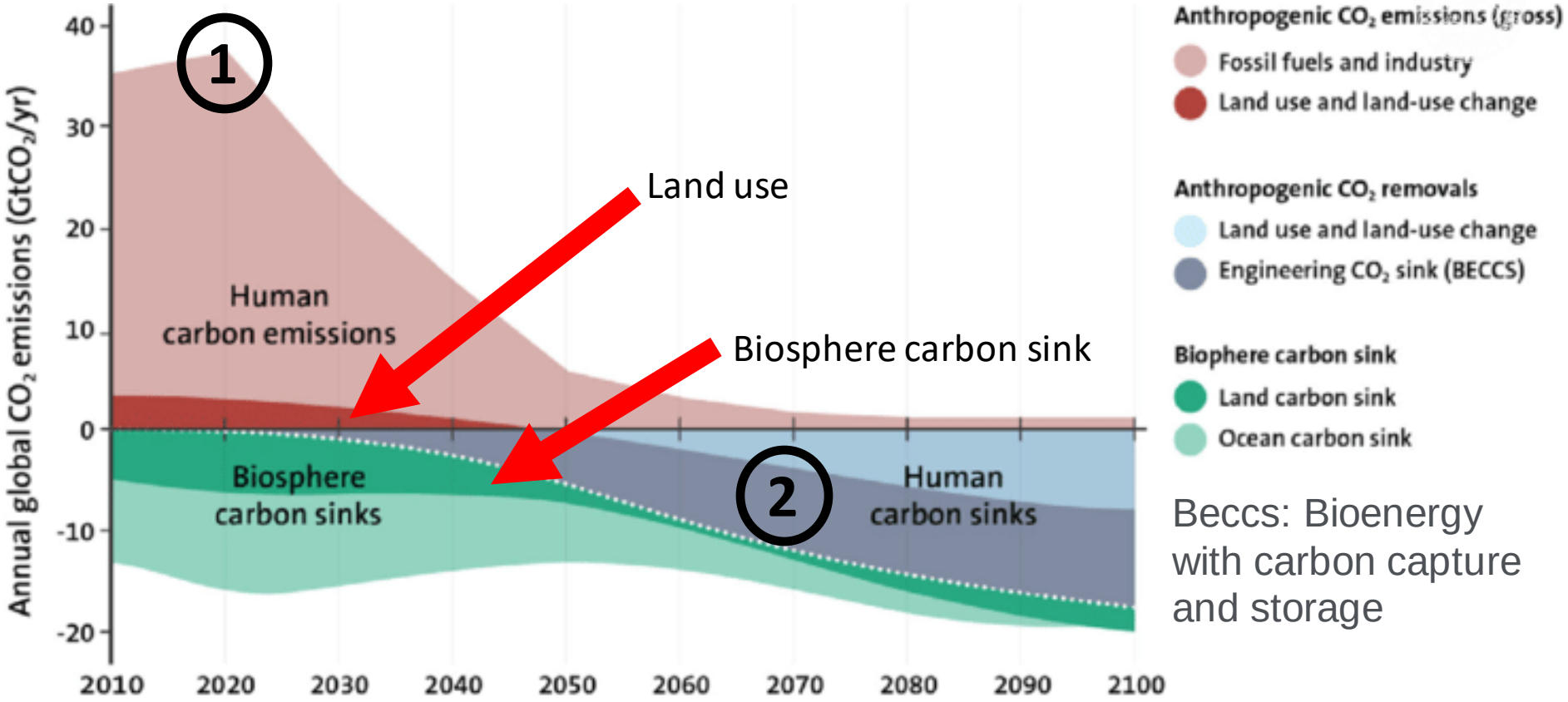


Science
JOURNALS AAAS

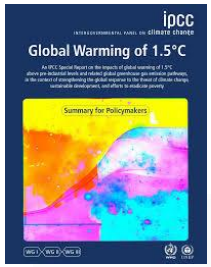
Europe's Terrestrial Biosphere Absorbs 7 to 12% of European Anthropogenic CO_2 Emissions

Ivan A. Janssens,[1]* Annette Freibauer,[2] Philippe Ciais,[3] Pete Smith,[4] Gert-Jan Nabuurs,[5,6] Gerd Folberth,[3] Bernhard Schlamadinger,[7] Ronald W. A. Hutjes,[5] Reinhart Ceulemans,[1] E.-Detlef Schulze,[2] Riccardo Valentini,[8] A. Johannes Dolman[9]

Most inverse atmospheric models report considerable uptake of carbon dioxide in Europe's terrestrial biosphere. In contrast, carbon stocks in terrestrial ecosystems increase at a much smaller rate, with carbon gains in forests and grassland soils almost being offset by carbon losses from cropland and peat soils. Accounting for non–carbon dioxide carbon transfers that are not detected by the atmospheric models and for carbon dioxide fluxes bypassing the ecosystem carbon stocks considerably reduces the gap between the small carbon-stock changes and the larger carbon dioxide uptake estimated by atmospheric models. The remaining difference could be because of missing components in the stock-change approach, as well as the large uncertainty in both methods. With the use of the corrected atmosphere- and land-based estimates as a dual constraint, we estimate a net carbon sink between 135 and 205 teragrams per year in Europe's terrestrial biosphere, the equivalent of 7 to 12% of the 1995 anthropogenic carbon emissions.



Beccs: Bioenergy with carbon capture and storage



1) Current priority: reduce the emissions

2) Future priority (in 40-50 years?) increase the carbon sinks (land-use & biosphere)

WHERE DOES CARBON GO?

CARBON STORAGE IN A GREAT LAKES FOREST

Fluxes

Stock

NET PHOTOSYNTHESIS
2.9 tons of carbon / acre yearly

SOIL RESPIRATION
2.2 tons of carbon / acre yearly

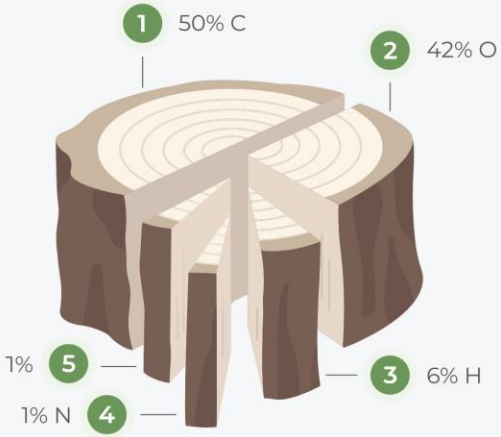
LEAVES
1%

TRUNK & BRANCHES
40%

WOODY DEBRIS
1%

TREE ROOTS
13%

SOIL ORGANIC MATTER
45%

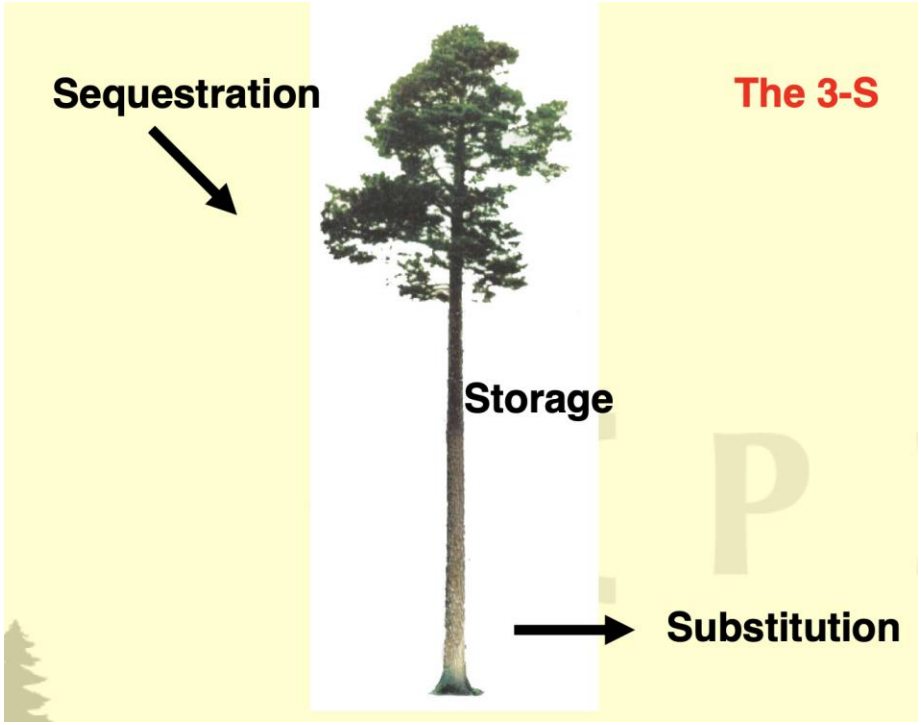


1. 50% carbon
2. 42% oxygen
3. 6% hydrogen
4. 1% nitrogen
5. 1% mineral matter

Background Analytical Study

Forests and Climate Change

Duncan Brack[i]



1) Sequestration/surface

Reduce REDD, afforestation

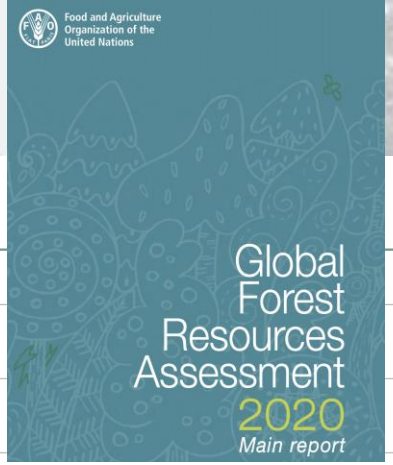
2) Storage/biomass

Sustainable forest management, Forest reserves, prevent/mitigate natural disturbances

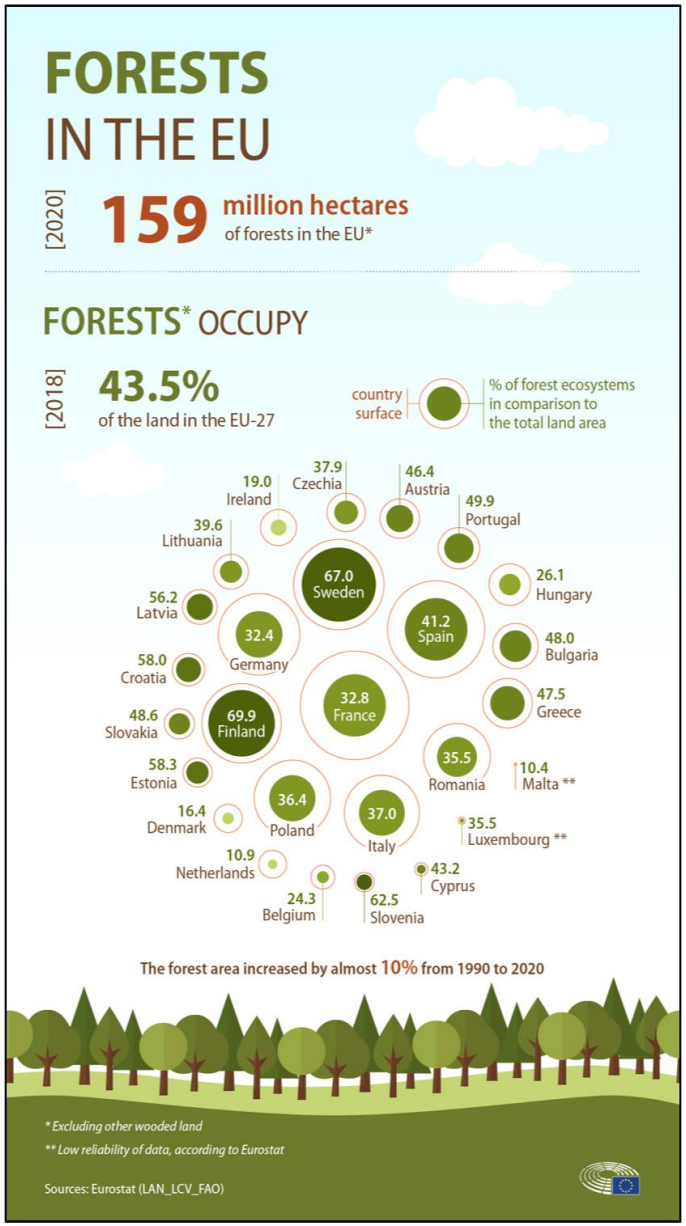
3) Substitution/products

Wood products, bioenergy

1a) REDD



REDD Reducing Emission from Deforestation and forest Degradation in developing countries



Quante foreste ci sono nell'UE?

REDD Reducing Emission from Deforestation and forest Degradation in developing countries

DEFORESTATION
MADE IN ITALY

La "deforestazione importata" dell'Europa

Deforestazione tropicale causata da materie prime importate, usate e consumate nell'Ue nel periodo 2005-2017: lista dei dieci Paesi europei (più la Svizzera) con l'impronta di deforestazione maggiore.

	Deforestazione (ettari all'anno)	Deforestazione pro capite (m2 all'anno)
Germania	43.700	5
Italia	35.800	6
Spagna	32.900	7
Regno Unito	30.000	5
Paesi Bassi	29.600	18
Francia	26.300	4
Belgio	14.800	14
Polonia	10.100	3
Portogallo	7.200	7
Danimarca	5.900	11
Svizzera*	4.301	5

** I dati relativi alla Svizzera si riferiscono al 2013 e si basano su uno studio dell'Università di tecnologia Chalmers di Göteborg*

Fonte: WWF • Scaricare i dati

SWI swissinfo.ch

Climate & Environment COP26 COP26 FAQ Climate Solutions Invisible project 2C project

The Washington Post
Democracy Dies in Darkness

Climate and Environment

More than 100 world leaders pledge to halt deforestation by 2030

While the nations involved represent 85 percent of the world's forests, these pledges frequently fall short.

The New York Times

Global Leaders Pledge to End Deforestation by 2030

The landmark agreement reflects a growing recognition of nature's role in helping to address global warming. Still, critics said it wasn't ambitious enough.

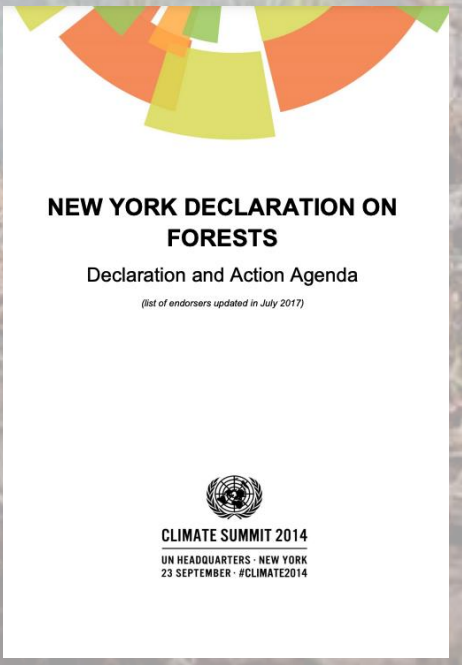
Cop26: world leaders agree deal to end deforestation

Historic declaration at Cop26 commits countries to ending major cause of CO2 emissions

An Objective already defined in the New York Declaration on Forests (2014) and even before in 1990 by ITTO: the "ITTO 2000 Objective"

With our varying mandates, capabilities, and circumstances, collectively we commit to doing our part to achieve the following outcomes in partnership, including by ensuring that strong, large-scale economic incentives are in place commensurate with the size of the challenge: at least halve the rate of loss of natural forests globally by 2020 and strive to end natural forest loss by 2030.

ITTO
INTERNATIONAL TROPICAL TIMBER ORGANIZATION

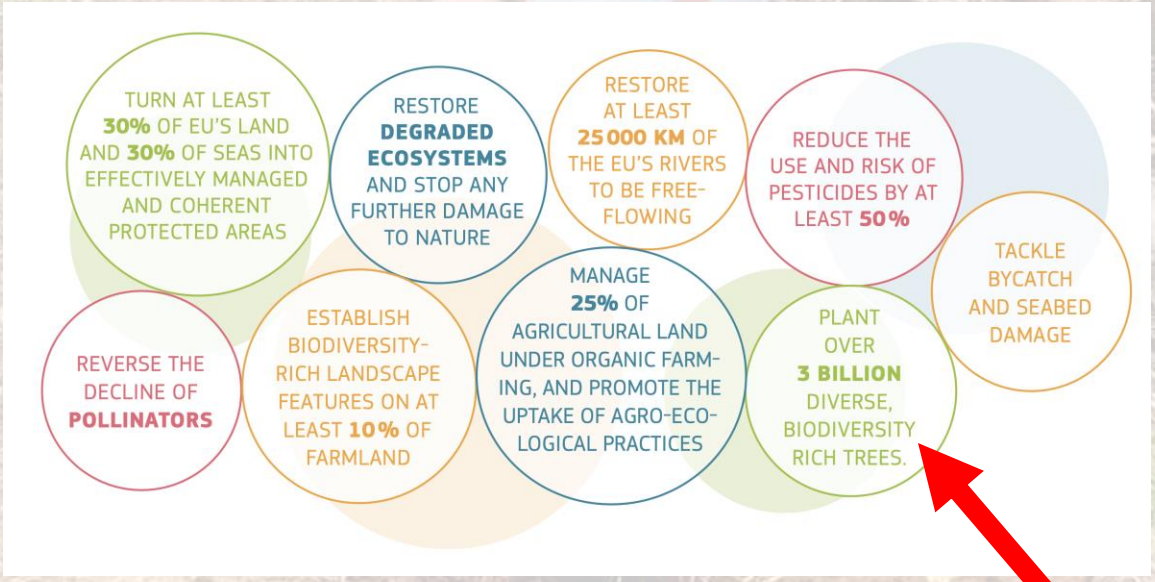


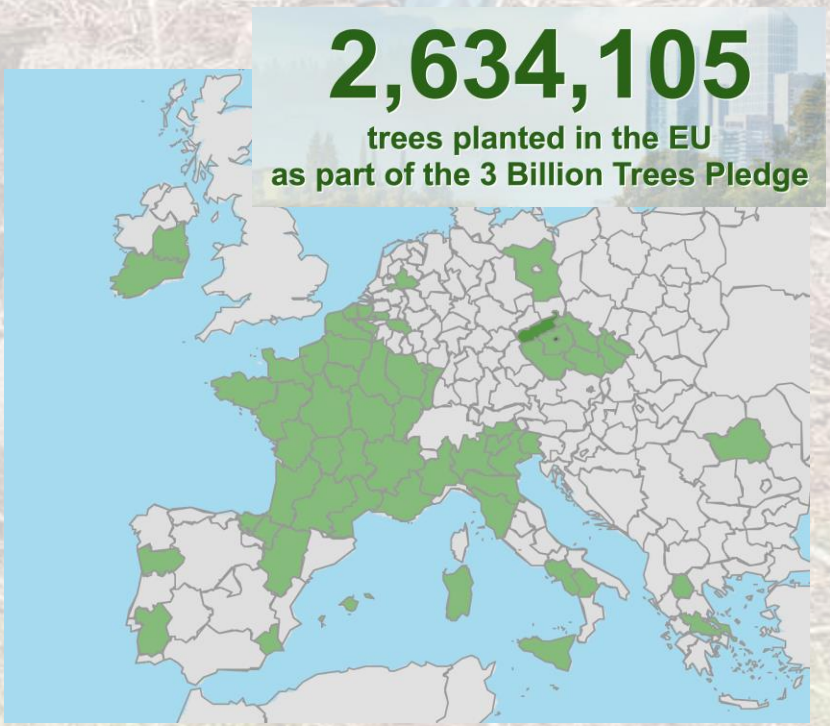
Cop26, leader divisi sul clima, ma d'accordo sulla riforestazione

"Un accordo chiave per proteggere e ripristinare le foreste della Terra", sottoscritto da oltre cento Paesi, è stato annunciato dal premier britannico Johnson alla Cop26 di Glasgow. Biden: stanziare 9 miliardi contro deforestazione. Von der Leyen: " Da Commissione Ue un miliardo di euro per le foreste". Ma il premier indiano Modi fissa al 2070 la scadenza per ridurre le azzerare le emissioni nette di gas


European Commission
EU BIODIVERSITY STRATEGY
Bringing nature back into our lives
"Making nature healthy again is key to our physical and mental wellbeing and is an ally in the fight against climate change and disease outbreaks. It is at the heart of our growth strategy, the European Green Deal, and is part of a European recovery that gives more back to the planet than it takes away."
Ursula Von der Leyen, President of the European Commission


NEW EU FOREST STRATEGY
FOR 2030
Commission européenne
European Commission


TURN AT LEAST 30% OF EU'S LAND AND 30% OF SEAS INTO EFFECTIVELY MANAGED AND COHERENT PROTECTED AREAS
RESTORE DEGRADED ECOSYSTEMS AND STOP ANY FURTHER DAMAGE TO NATURE
RESTORE AT LEAST 25 000 KM OF THE EU'S RIVERS TO BE FREE-FLOWING
REDUCE THE USE AND RISK OF PESTICIDES BY AT LEAST 50%
TACKLE BYCATCH AND SEABED DAMAGE
REVERSE THE DECLINE OF POLLINATORS
ESTABLISH BIODIVERSITY-RICH LANDSCAPE FEATURES ON AT LEAST 10% OF FARMLAND
MANAGE 25% OF AGRICULTURAL LAND UNDER ORGANIC FARMING, AND PROMOTE THE UPTAKE OF AGRO-ECOLOGICAL PRACTICES
PLANT OVER 3 BILLION DIVERSE, BIODIVERSITY RICH TREES.


2,634,105
trees planted in the EU
as part of the 3 Billion Trees Pledge

AMBIENTE

«Climate change? Basterebbe una foresta grande come gli Usa»

Parla il neurobiologo delle piante Stefano Mancuso: 900 milioni di ettari piantatiridurrebbero di due terzi i gas serra. «Cambiare stili di vita? Serve troppo tempo»

di Sandro Orlando

Comunità Laudato si'

Un albero in più

HOME PAGE RETE DELLE COMUNITÀ DOWNLOAD NEWS MEDIA FORUM ATTI CASA F

Mancuso: «Piantiamo un albero per ogni italiano e ci salveremo»

Settembre 12, 2019, 5:13 pm 2857

Le Comunità Laudato si' che, prendendo a ispirazione l'enciclica di Francesco, si sono moltiplicate in Italia, lanciano l'appello albero in più. L'obiettivo è di piantare, in Italia, 60 milioni di alberi nel più breve tempo possibile

Stefano Mancuso: al pianeta servono mille miliardi di alberi in più

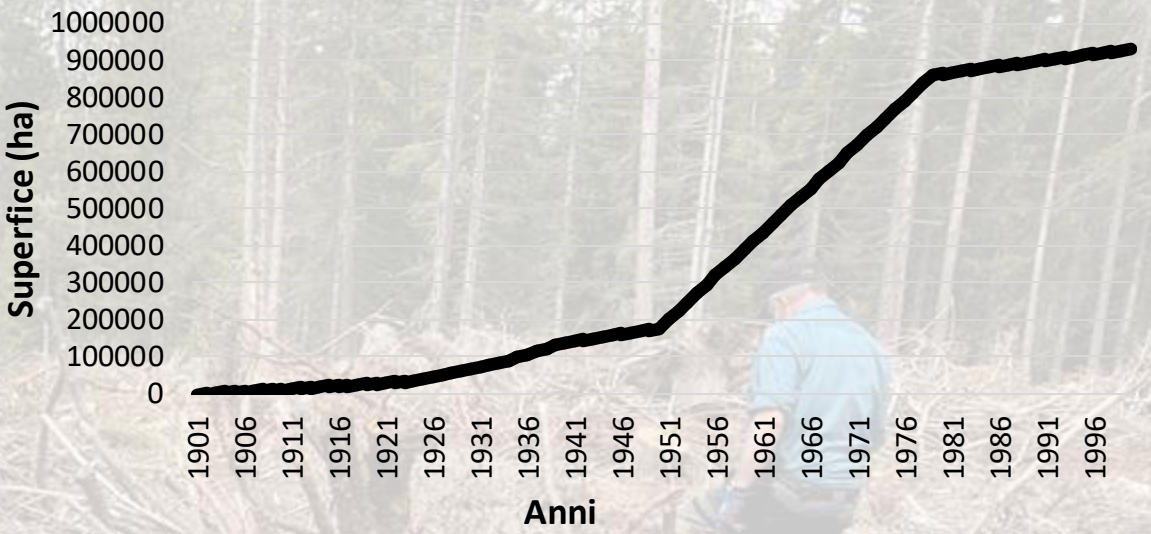
di Laura Solieri | 04 ottobre 2020

Il biologo: "Sembra un'enormità ma pensate che se solo utilizzassimo le terre abbandonate dall'agricoltura dagli anni Novanta ad oggi, potremmo mettere a dimora, in Italia, fino a sei miliardi di alberi". Il costo? "Non ci dovrebbe interessare perché qualunque sia la cifra sarebbe comunque una frazione irrilevante rispetto ai danni che subiremo se non mettiamo a dimora questa quantità"

2023?

1.b1) unrealistic….

- No seeds
- No nurseries
- No plants
- No land
- No workers
- Leakage (land cost, social impacts, Land grabbing, albedo, biodiversity…)
- No time… (planning)



	1950	2015
Public nurseries	>400	<100
Plant production	130 millions	4 millions
Workers	40000	<1000

1.b5) tree planting is not a simple solution. Green washing?

Received: 25 August 2020 | Accepted: 13 October 2020
DOI: 10.1111/gcb.15498

GCB REVIEWS
Global Change Biology WILEY

Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits

Alice Di Sacco[1] | Kate A. Hardwick[1] | David Blakesley[2,3] | Pedro H. S. Brancalion[4] | Elinor Breman[1] | Loic Cecilio Rebola[1,5] | Susan Chomba[6] | Kingsley Dixon[7,8] | Stephen Elliott[9] | Godfrey Ruyonga[10] | Kirsty Shaw[11] | Paul Smith[11] | Rhian J. Smith[1] | Alexandre Antonelli[1,12,13]

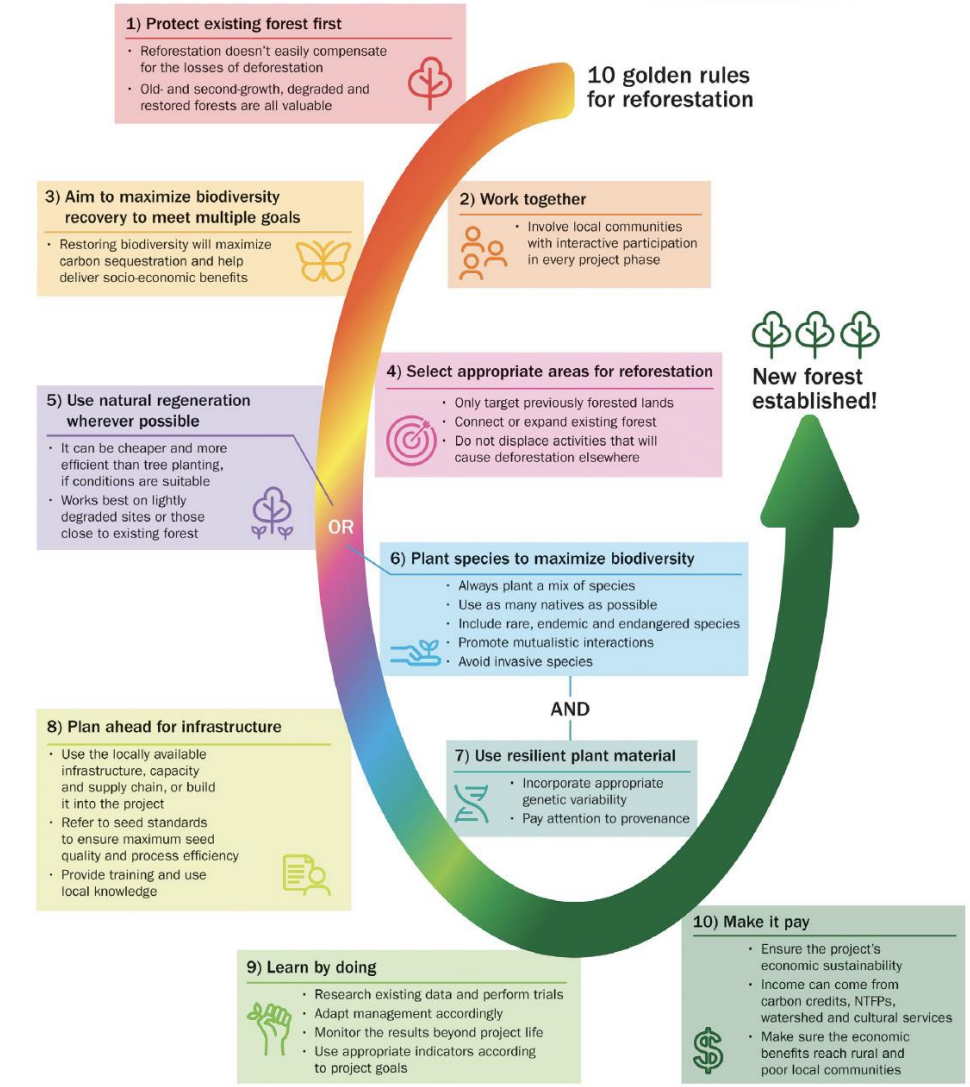


FIGURE 2 Ten golden rules for a successful reforestation project. The order of the rules matches the order in which tasks should be considered during project planning and implementation, although some are interdependent and should be considered in parallel. See text for details

AlberItalia

IL POSTO GIUSTO PER GLI ALBERI GIUSTI...

...contro la crisi climatica

AlberItalia

INDICE

LA SCELTA DEL LUOGO IN CUI PIANTARE

Questa raccolta di principi si occupa di un'ambiente in particolare: quello dentro e intorno alle città. In Italia, fortunatamente, le foreste si stanno espandendo in modo naturale in molti territori montani e collinari. In pianura, invece, domina ancora il consumo del suolo e le nostre città subiscono in modo particolarmente intenso gli estremi climatici, sempre più intensi e frequenti.

È qui che dagli alberi e dalle foreste si possono ottenere dei "**super benefici**". Nelle aree urbane e periurbane possiamo contare sul fatto che gli alberi sottraggono CO_2 dall'atmosfera e la fissano nel legno (come i loro ben più numerosi fratelli "di campagna") e ciò ci permette di contrastare la crisi climatica. Ma c'è di più: attraverso gli alberi urbani è possibile migliorare la salute e il benessere, incoraggiare l'attività all'aperto, assorbire il rumore e l'inquinamento atmosferico, ridurre le alte temperature estive e mitigare le piogge intense.

Per ottenere tutto ciò, il **primo passo** quando si progetta di piantare un albero, costituire un bosco in città o una foresta in area extraurbana, è **conoscere le caratteristiche della "stazione", cioè del luogo in cui saranno messe a dimora le piante.** Le informazioni che

raccoglieremo influenzeranno tutte le decisioni successive.

Decisioni prese in base a informazioni corrette consentiranno all'albero di realizzare il suo potenziale e di ottenere da esso tutti i suoi possibili benefici. La posizione di alberature e "foreste urbane" dovrebbe essere una delle prime e più importanti decisioni da prendere qu
dello spazio

Il contesto u
molto disor
di impianto
delle piante
per i cittadir
stato già oc

Inoltre **freq**
contendon
creati dall'u
periurbano,
servizi di uti
marciapiedi
determinare
da impiegar
adatteranno
saranno nec
problemi pe

Una volta ir
piantare alb
urbana, è es
di un esper
progettazio
pubblici, l'au

Un accesso equo al verde

La scelta del sito di impianto non può essere fatta solo sulla base delle caratteristiche della stazione, ma anche in relazione a dove è ubicato il verde già esistente.

Chi si prenderà cura delle piante?

Prima di seminare il primo seme o piantare la prima piantina, è necessario porsi una domanda "che guarda al futuro". Chi si prenderà cura di questo albero o di questa foresta? Quali saranno i passi necessari per assicurarsi che resti in buona salute e cosa bisognerà fare al termine del suo ciclo vitale? Quanto tempo e risorse è necessario mettere in campo per prendersene cura in modo responsabile "dalla culla alla tomba"?

Non tutti hanno la stessa preparazione e la stessa quantità di tempo da dedicare alla realizzazione e alla cura di piantagioni arboree. Per questo, prima di progettare un elemento di infrastruttura verde, è importante accertarsi dell'effettiva competenza di chi se ne dovrà occupare, della quantità di tempo che potrà dedicare agli alberi e dei periodi dell'anno in cui potrà farlo.

Tenere conto di questi aspetti incide sul successo della piantagione di un albero o di una "Foresta Urbana", tanto quanto

correttezza di analisi del sito, preparazione del terreno, scelta delle specie e stesura di un piano di coltura e conservazione.

Ciò rende più probabile che i nostri figli e i nostri nipoti, godendo dei benefici di una foresta urbana ormai matura, ringrazino chi ha lavorato per crearla così bella e sana.

https://www.alberitalia.it/filevari/Alberitalia.it-vademecum/alberitalia.it-vademecum.html

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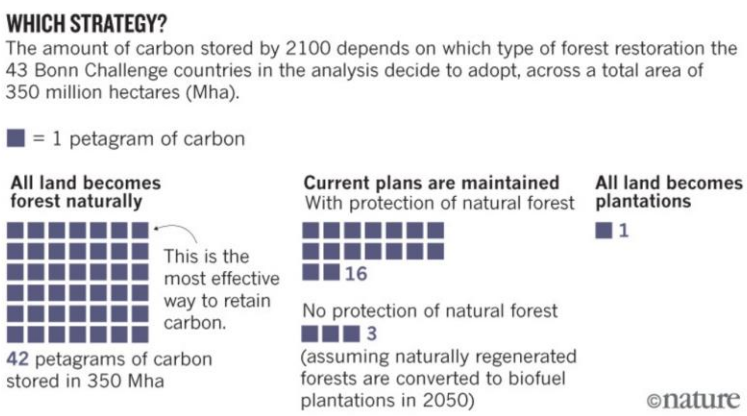
nature > comment > article

COMMENT · 02 APRIL 2019

Restoring natural forests is the best way to remove atmospheric carbon

Plans to triple the area of plantations will not meet 1.5 °C climate goals. New natural forests can, argue Simon L. Lewis, Charlotte E. Wheeler and colleagues.

Simon L. Lewis, Charlotte E. Wheeler, Edward T. A. Mitchard & Alexander Koch



Source: S. L. Lewis *et al.*

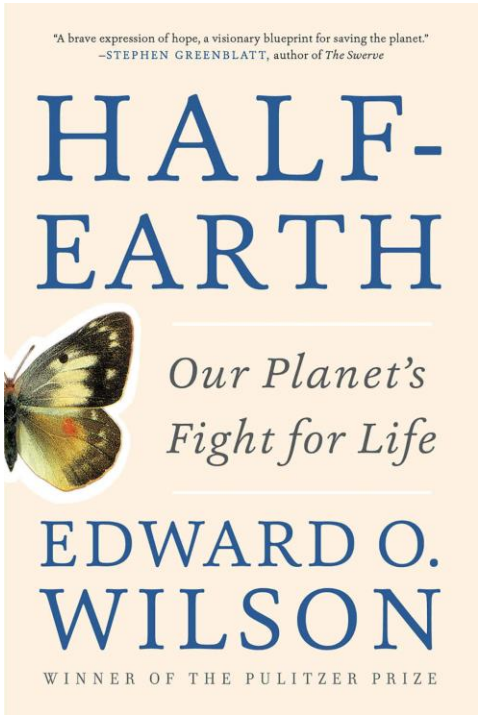
nature ecology & evolution

PERSPECTIVE

https://doi.org/10.1038/s41559-018-0490-x

The exceptional value of intact forest ecosystems

James E. M. Watson[1,2,15*], Tom Evans[2,15], Oscar Venter[3], Brooke Williams[1,2], Ayesha Tulloch[1,2], Claire Stewart[1], Ian Thompson[4], Justina C. Ray[5], Kris Murray[6], Alvaro Salazar[1], Clive McAlpine[1], Peter Potapov[7], Joe Walston[2], John G Robinson[2], Michael Painter[2], David Wilkie[2], Christopher Filardi[8], William F. Laurance[9], Richard A. Houghton[10], Sean Maxwell[1], Hedley Grantham[1,2], Cristián Samper[2], Stephanie Wang[2], Lars Laestadius[11], Rebecca K. Runting[1], Gustavo A. Silva-Chávez[12], Jamison Ervin[13] and David Lindenmayer[14]



frontiers in Forests and Global Change

PERSPECTIVE
published: 11 June 2019
doi: 10.3389/ffgc.2019.00027

Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good

William R. Moomaw[1], Susan A. Masino[2,3] and Edward K. Faison[4]*

The New York Times

A CONVERSATION WITH

In 'Half Earth,' E.O. Wilson Calls for a Grand Retreat

"To save biodiversity, we need to set aside about half the earth's surface as a natural reserve." — Edward O. Wilson Kayana Szymczak for The New York Times

Forestry

CLIMATE CHANGE 2007
SYNTHESIS REPORT

ipcc

Coordinating Lead Authors:
Gert Jan Nabuurs (The Netherlands), Omar Masera (Mexico)

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Kenneth Andrasko (USA), Pablo Benitez-Ponce (Equador), Rizaldi Boer (Indonesia), Michael Dutschke (Germany), Elnour Elsiddig (Sudan), Justin Ford-Robertson (New Zealand), Peter Frumhoff (USA), Timo Karjalainen (Finland), Olga Krankina (Russia), Werner A. Kurz (Canada), Mitsuo Matsumoto (Japan), Walter Oyhantcabal (Uruguay), Ravindranath N.H. (India), Maria José Sanz Sanchez (Spain), Xiaquan Zhang (China)

IPCC: Forestry can make a very significant contribution to a low-cost global mitigation portfolio that provides synergies with adaptation and sustainable development. However, this opportunity is being lost in the current institutional context and lack of political will to implement and has resulted in only a small portion of this potential being realized at present (high agreement, much evidence).

ELSEVIER

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journal homepage: www.elsevier.com/locate/ecoser

What is Climate-Smart Forestry? A definition from a multinational collaborative process focused on mountain regions of Europe

Euan Bowditch[a], Giovanni Santopuoli[b,c,*], Franz Binder[d], Miren del Río[e,f], Nicola La Porta[g,h], Tatiana Kluvankova[i], Jerzy Lesinski[j], Renzo Motta[k], Maciej Pach[l], Pietro Panzacchi[c,m], Hans Pretzsch[n], Christian Temperli[o], Giustino Tonon[m], Melanie Smith[a], Violeta Velikova[p], Andrew Weatherall[q], Roberto Tognetti[b,c,h]

Climate-Smart Forestry *is sustainable adaptive forest management and governance to protect and enhance the potential of forests to adapt to, and mitigate climate change. The aim is to sustain ecosystem integrity and functions and to ensure the continuous delivery of ecosystem goods and services, while minimising the impact of climate-induced changes on mountain forests on well-being and nature's contribution to people.*

In summary, **Climate-Smart Forestry** should enable both forests and society to transform, adapt to and mitigate climate-induced changes.

forests

MDPI

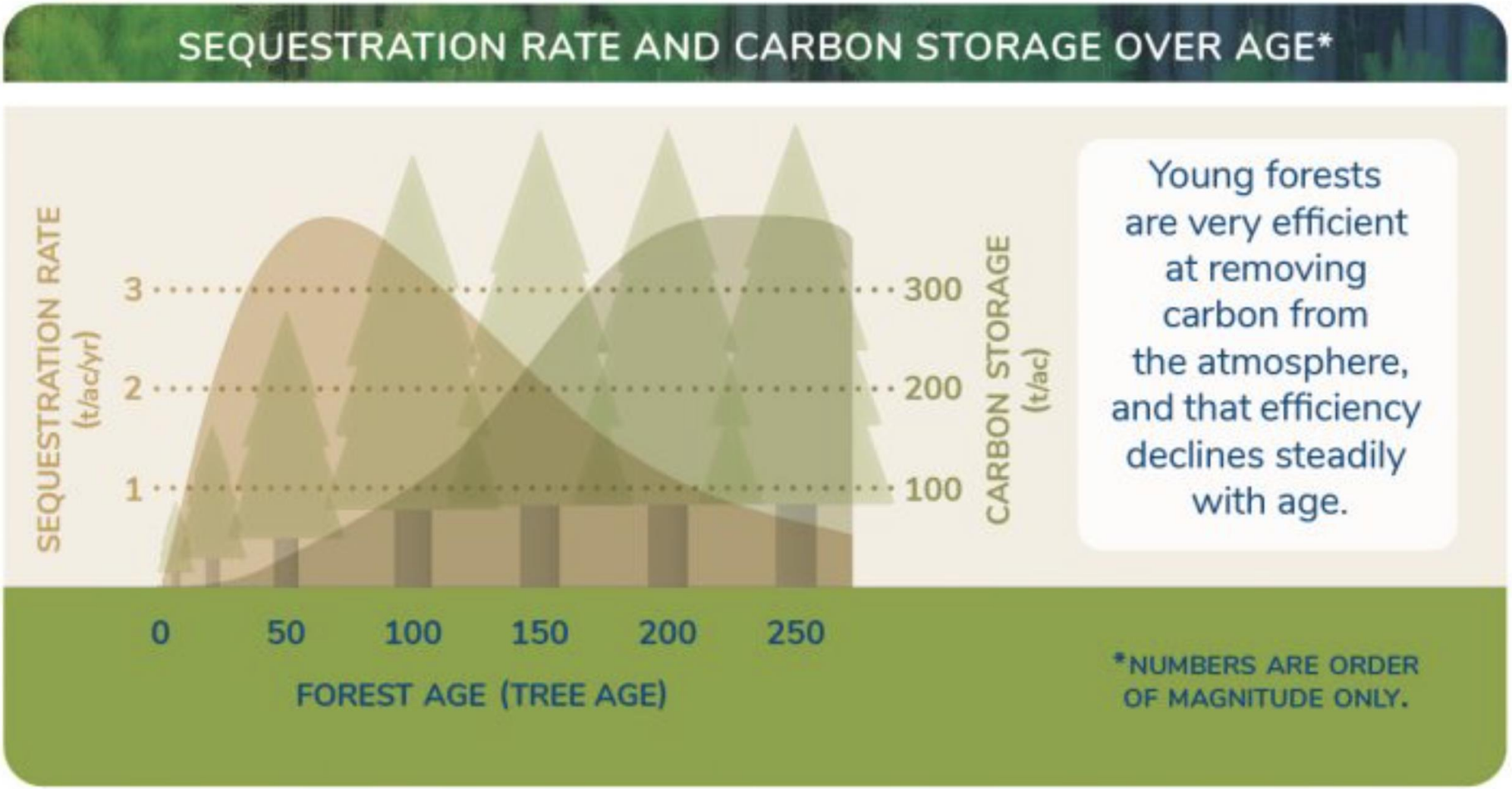
Article

By 2050 the Mitigation Effects of EU Forests Could Nearly Double through Climate Smart Forestry

Gert-Jan Nabuurs [1,*], Philippe Delacote [2], David Ellison [3], Marc Hanewinkel [4], Lauri Hetemäki [5], Marcus Lindner [5]

Table 1. Summation of the Climate Smart Forestry mitigation effect. All numbers are approximations.

Main Category of Forest Management Measure	Sub Measure	Mitigation Effect (Mt CO_2 a^{-1})
1. Improved forest management		172
	1a. fullgrown coppice	56
	1b. enhanced productivity & improved management	38
	1c. reduced disturbances, deforestation, drainage	35
	1d. material substitution wood products	43
2. Forest area expansion		64
3. Energy substitution		141
4. Establish forest reserves		64
Total		441



Boschi giovani sono molto efficienti nell'assorbire carbonio, foreste mature e vetuste hanno assorbimenti più bassi ma stock più elevati

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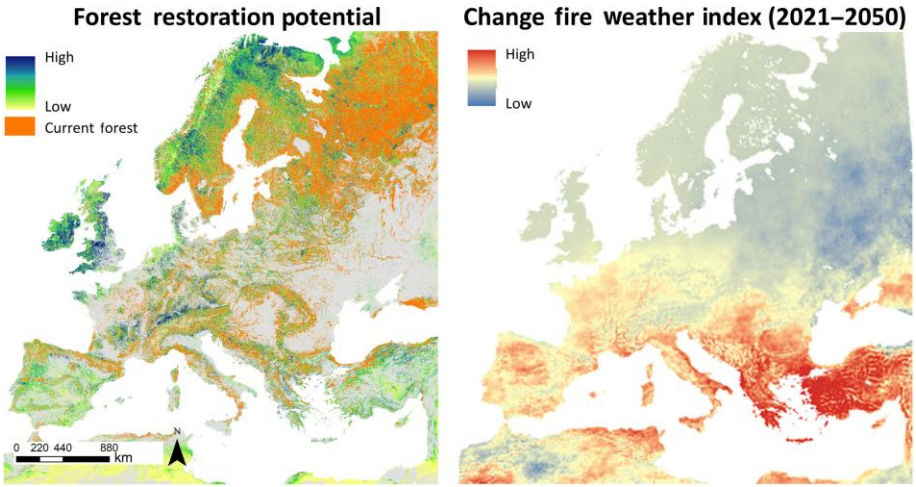
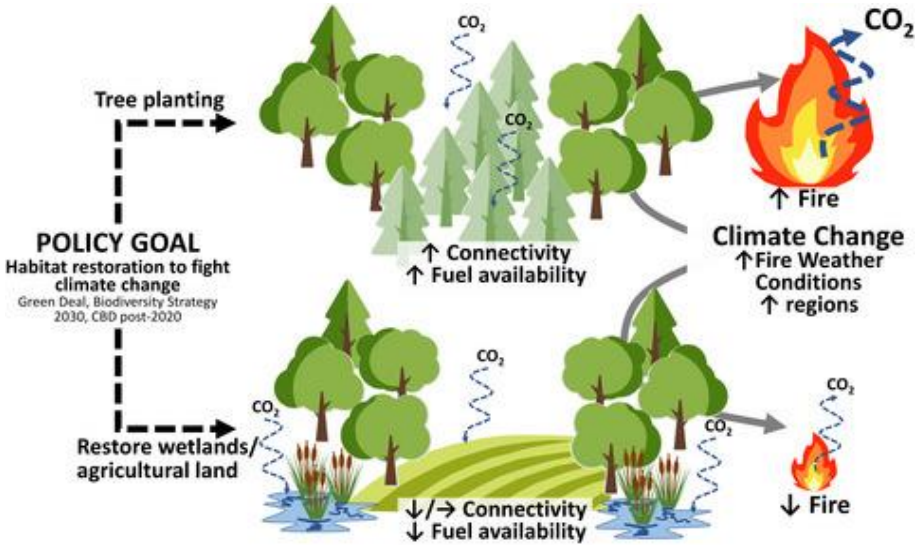
Global Change Biology WILEY

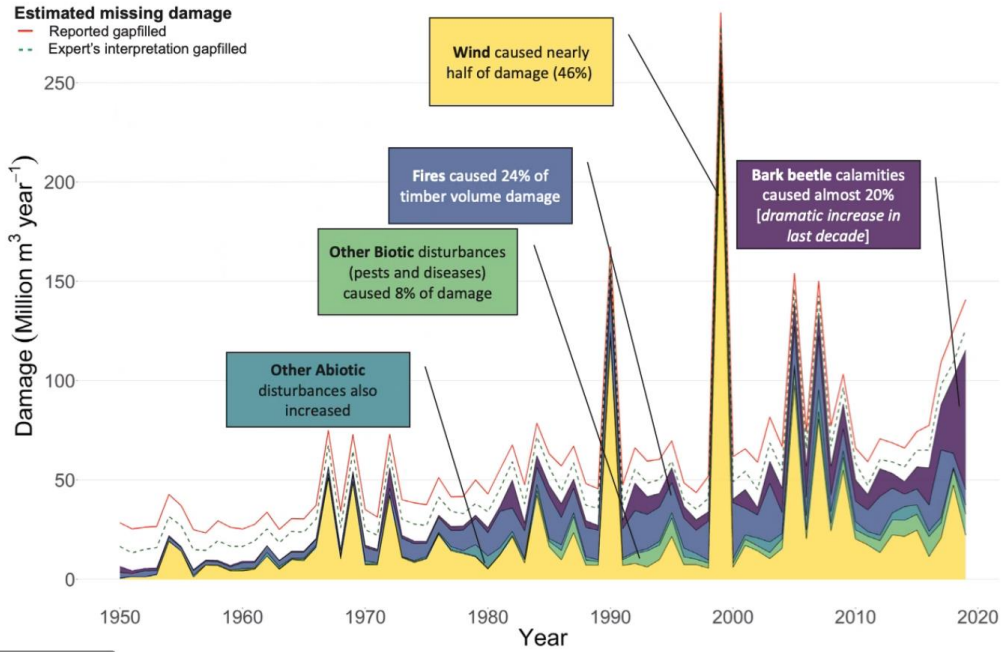
PERSPECTIVE

Tree planting: A double-edged sword to fight climate change in an era of megafires





Patacca et al. (*Global Change Biol.* 2022)



nature climate change

PERSPECTIVE

PUBLISHED ONLINE: 18 AUGUST 2013 | DOI: 10.1038/NCLIMATE1853

First signs of carbon sink saturation in European forest biomass

Gert-Jan Nabuurs[1]*, Marcus Lindner[2], Pieter J. Verkerk[2], Katja Gunia[3], Paola Deda[4], Roman Michalak[4] and Giacomo Grassi[5]

SCIENCE ADVANCES | RESEARCH ARTICLE

ENVIRONMENTAL STUDIES

How close are we to the temperature tipping point of the terrestrial biosphere?

Katharyn A. Duffy[1,2]*, Christopher R. Schwalm[2,3], Vickery L. Arcus[4], George W. Koch[2], Liyin L. Liang[4,5], Louis A. Schipper[4]

nature climate change

ARTICLES

https://doi.org/10.1038/s41558-022-01287-8

Check for updates

OPEN

Pronounced loss of Amazon rainforest resilience since the early 2000s

Chris A. Boulton[1]✉, Timothy M. Lenton[1] and Niklas Boers[1,2,3]

Are we able to forecast the future capacity of the forests to absorb carbon dioxide?

nature COMMUNICATIONS

Corrected: Author correction

ARTICLE

https://doi.org/10.1038/s41467-019-10174-4 OPEN

Limited capacity of tree growth to mitigate the global greenhouse effect under predicted warming

Ulf Büntgen[1,2,3], Paul J. Krusic[1,4], Alma Piermattei[1], David A. Coomes[5], Jan Esper[6], Vladimir S. Myglan[7], Alexander V. Kirdyanov[1,8,9], J. Julio Camarero[10], Alan Crivellaro[1] & Christian Körner[11]

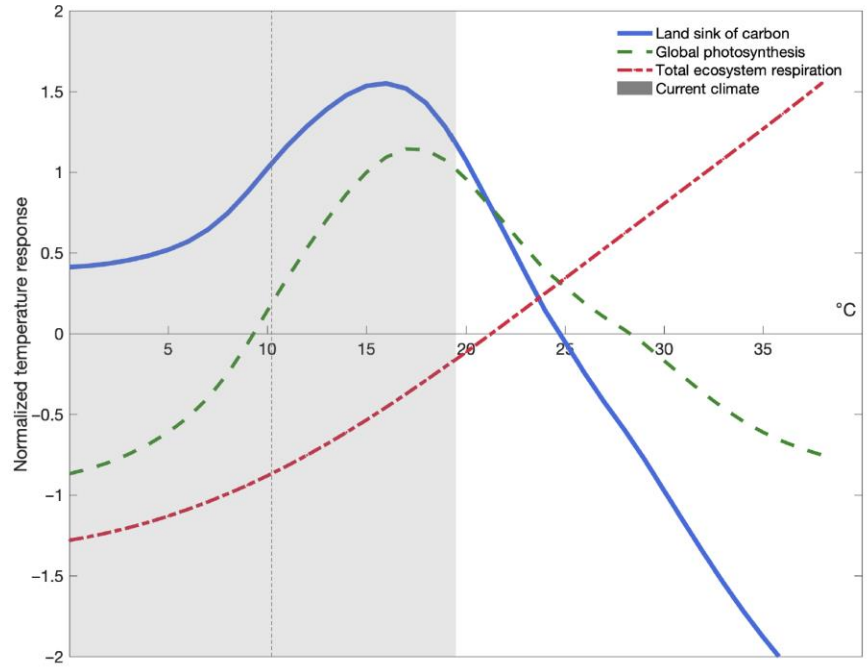


Fig. 2. Temperature dependence of the terrestrial carbon sink. Integrated global temperature response curves for normalized photosynthesis (green dashed line), respiration (red dashed dotted line), and a mass balance estimate of the land sink (blue solid line) in relation to current climate (gray bar), where the mean across each curve sums to zero. Photosynthesis represents the integration of C_3 and C_4 curves (Fig. 1) weighted by global fraction of C_3/C_4 photosynthesis (*37*). The gray shaded bar represents observed mean annual temperature range from 1991 to 2015 (*9*, *22*), and vertical dashed line indicates current annual mean temperature at FLUXNET tower sites.

Renewable energy from forest biomass?

Biomass for energy (bioenergy) is the main source of renewable energy in the EU, with a share of almost 60%

Wood represents about the 50% of biomass for energy

2020 - 20% of renewables

2030 - 32% of renewables

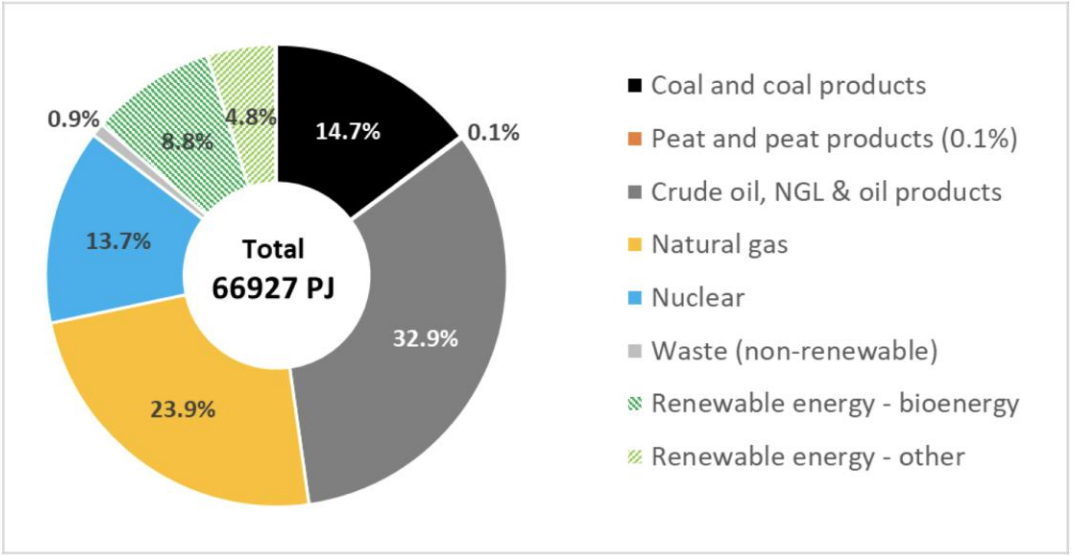


Figure 1: Total primary energy supply[5] in the EU in 2016 (Source: World Energy Balances © OECD/IEA 2018)

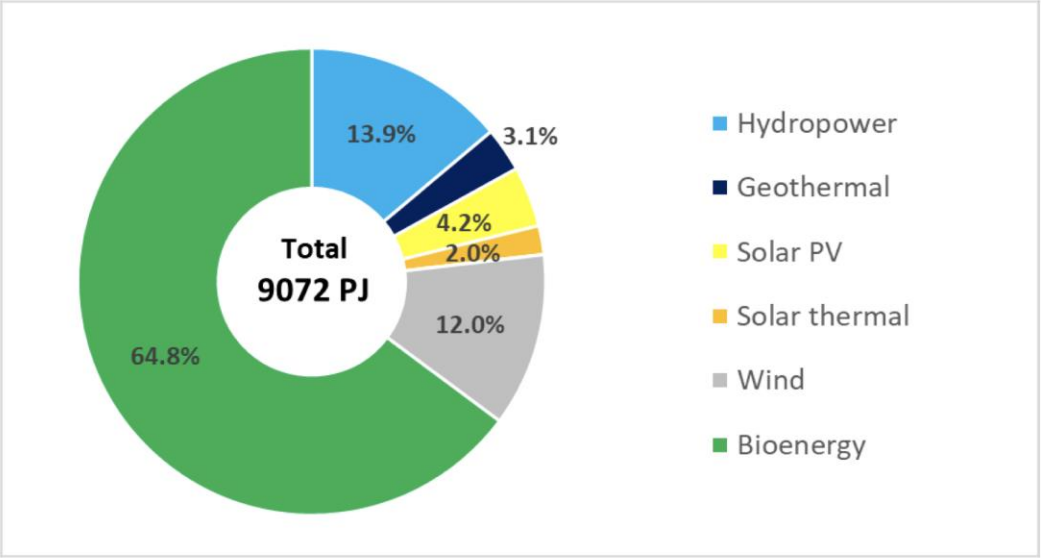
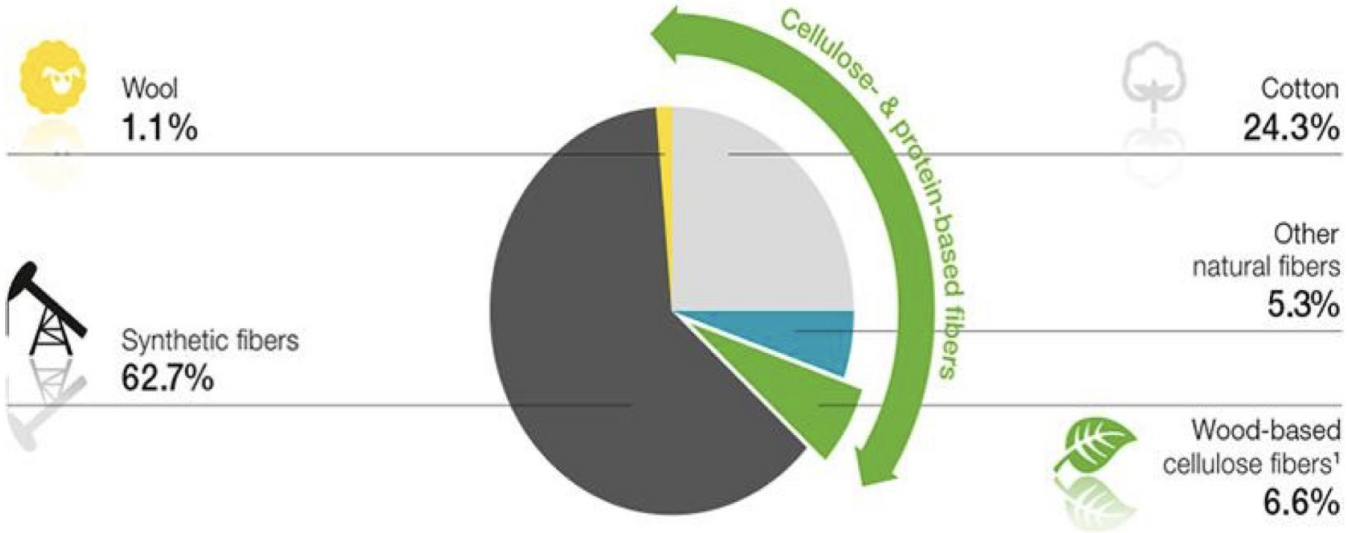


Figure 2: Total primary energy supply of Renewable Energy Sources in the EU in 2016 (Source: World Ene Balances © OECD/IEA 2018)

Wood-based fibres for a sustainable textile industry

- Global production of textile fibres:
  - 93 Mt (2016)
  - 250 Mt (2050)

- Carbon footprint from wood-based textile fibres can be significantly lower than synthetic ones



Carbon Leakage

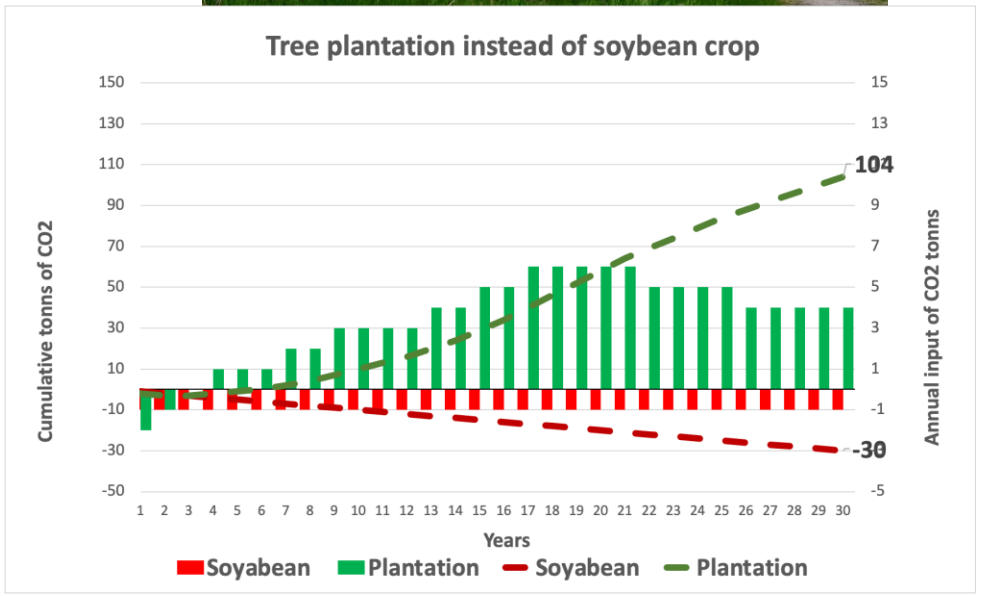
Carbon leakage

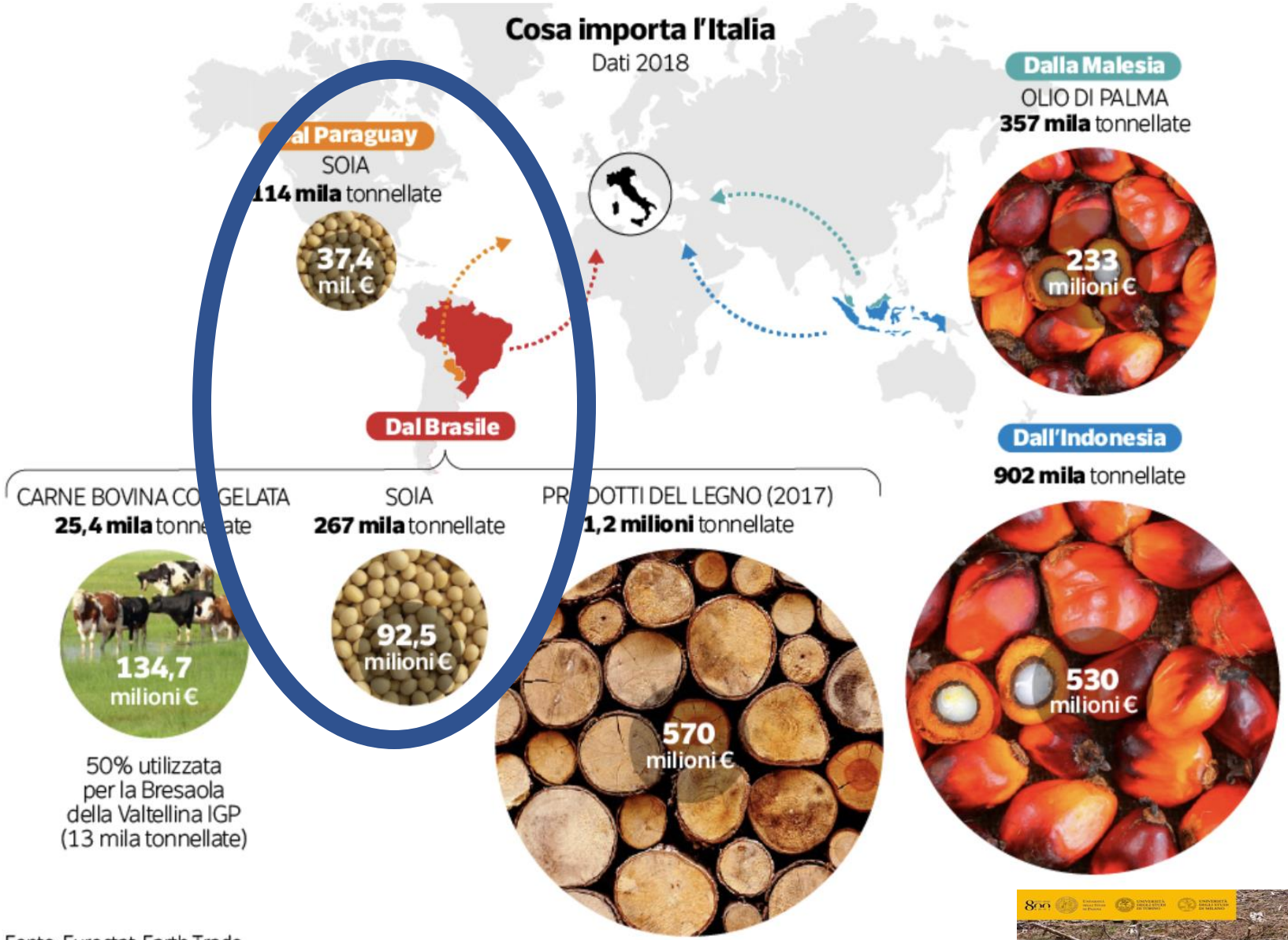
"Carbon leakage is defined as the increase in CO_2 emissions outside the countries taking domestic mitigation action divided by the reduction in the emissions of these countries. It is expressed as a percentage, and can be greater or less than 100%.

Soybean crop paradox

1 ha

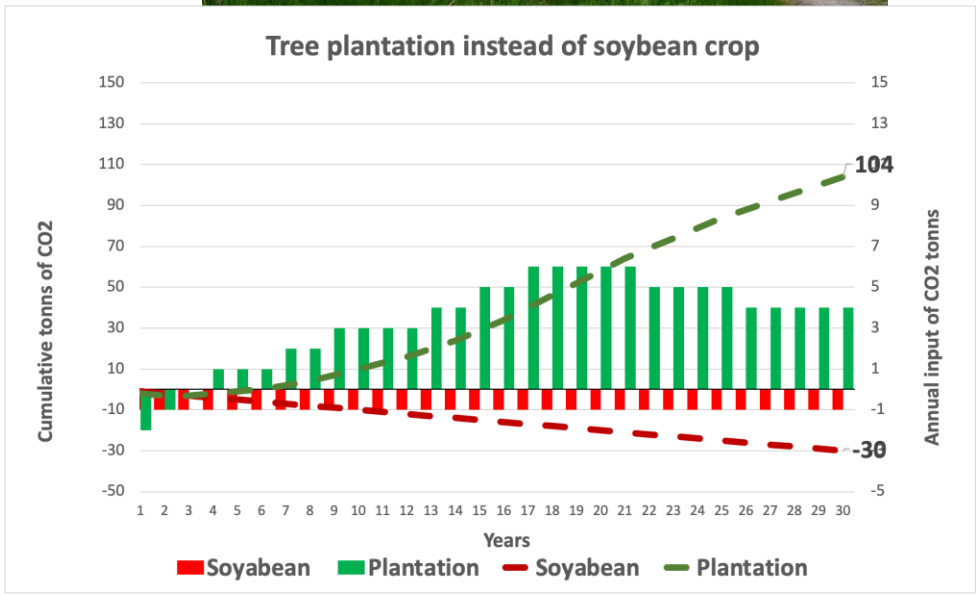
+ 74 tonn CO_2 (30 years)

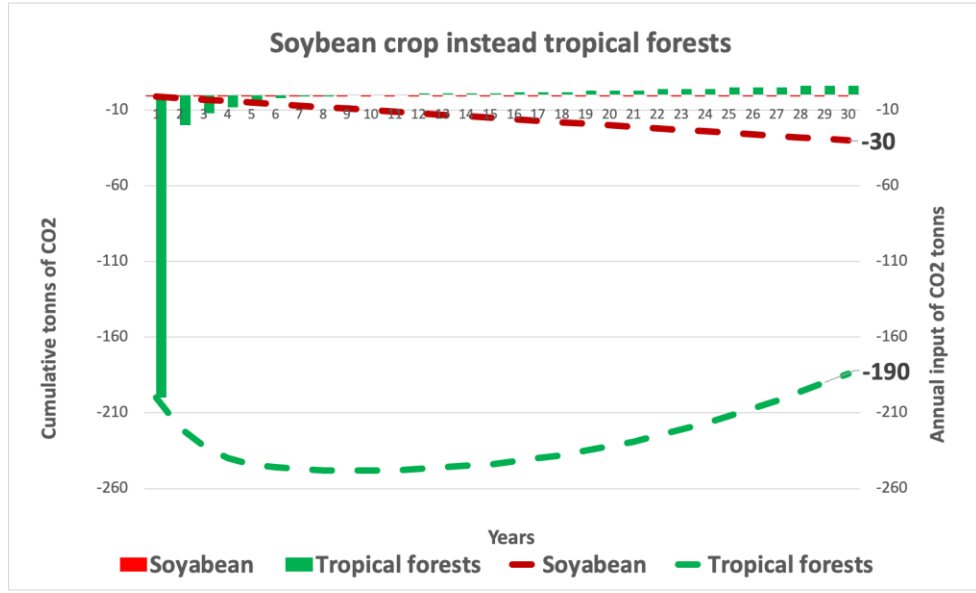



Cosa importa l'Italia
Dati 2018
Dalla Malesia
OLIO DI PALMA
357 mila tonnellate
233 milioni €
Dall'Indonesia
902 mila tonnellate
530 milioni €
al Paraguay
SOIA
114 mila tonnellate
37,4 mil. €
Dal Brasile
CARNE BOVINA CO GELATA
25,4 mila tonn ate
134,7 milioni €
50% utilizzata per la Bresaola della Valtellina IGP (13 mila tonnellate)
SOIA
267 mila tonnellate
92,5 milioni €
PR DOTTI DEL LEGNO (2017)
1,2 milioni tonnellate
570 milioni €
Fonte: Eurostat, Earth Trade

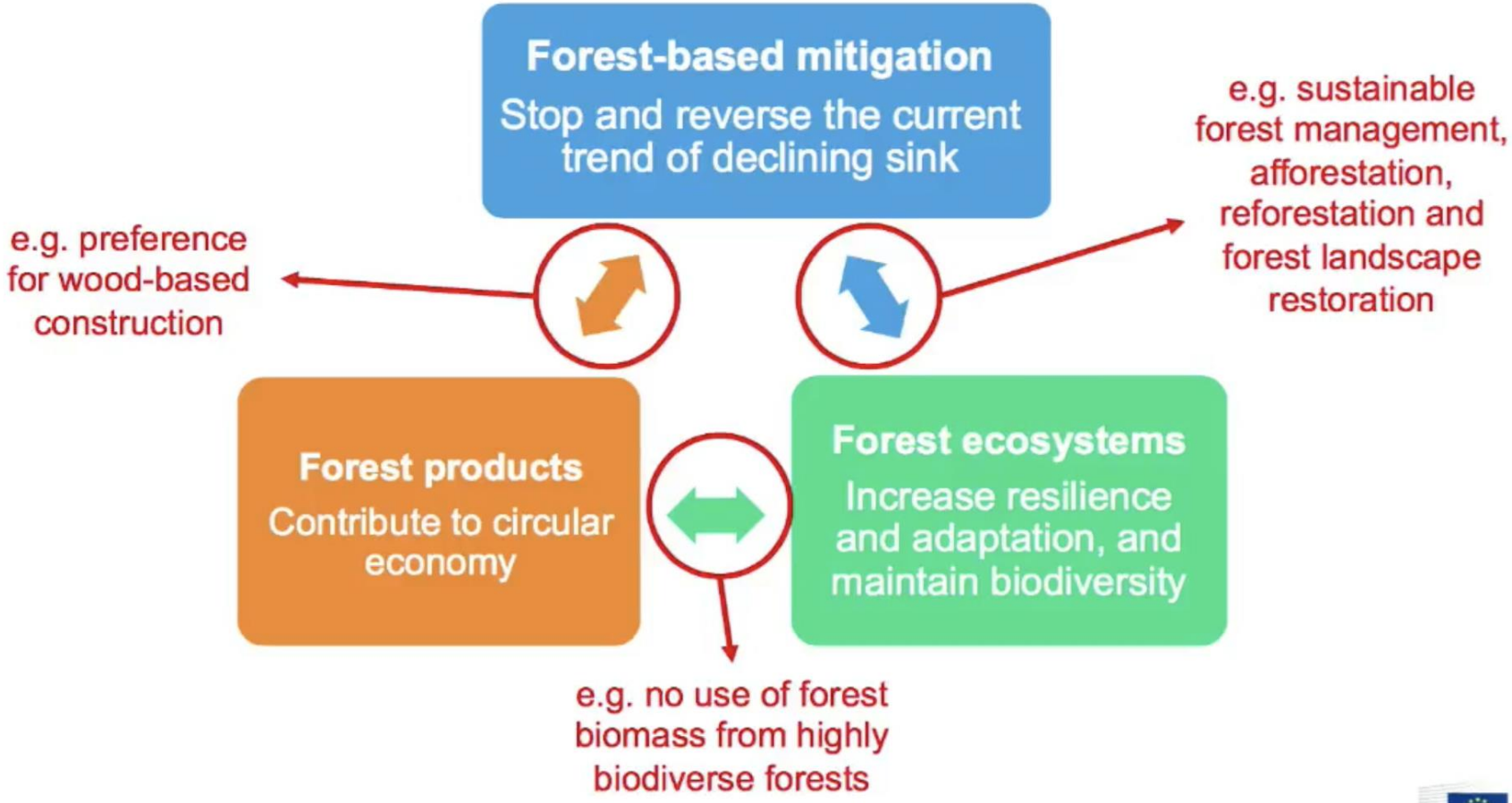

DEFORESTATION
MADE IN ITALY
Padova, 10 dicembre 2019 ore 14:00

Soybean crop paradox



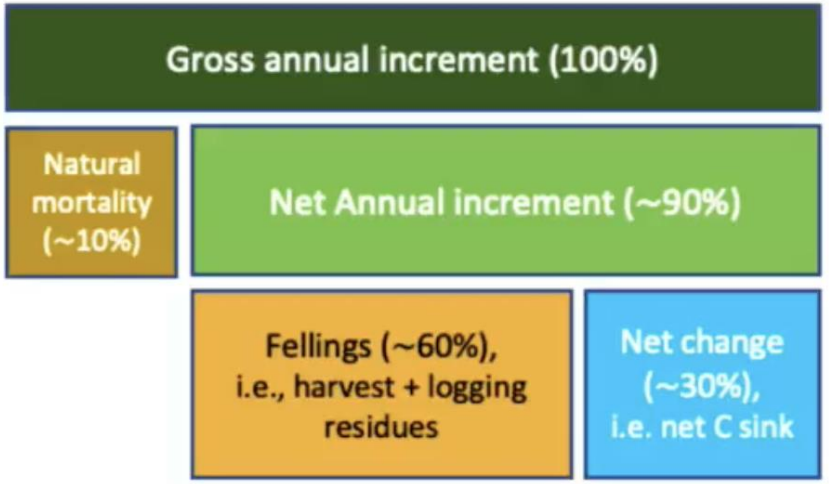


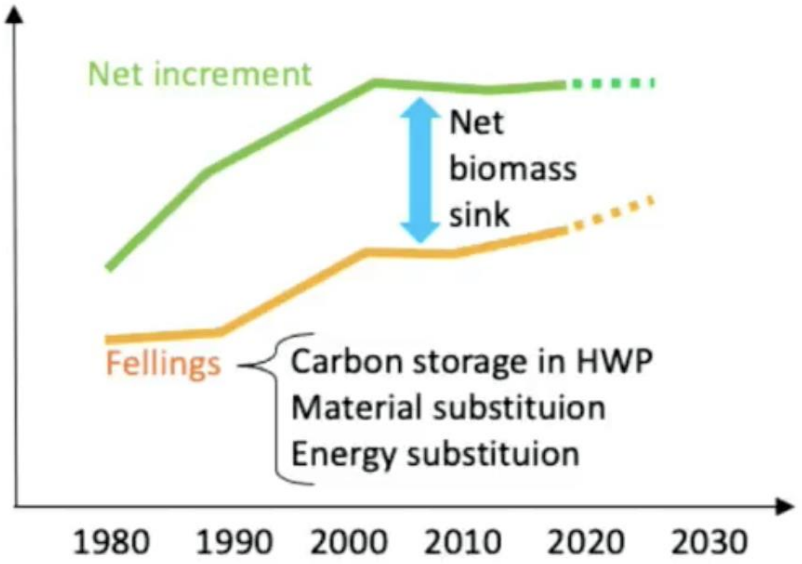
Sinergia tra le politiche



European Commission

Components of the net forest carbon sink and their dynamics





The **net forest C sink** (living biomass) can increase if the **gross annual increment** increases, the **natural mortality** decreases, or **fellings** (harvest + residues) are reduced.

Trade-offs exist, e.g.:

- ↑ harvest: ↑ wood in HWP and substitution effects, but ↓ net sink in the short-medium term
- ↓ harvest: ↑ net sink in the short-medium term, but ↓ HWP and substitution effects

European Commission

La capacità di assorbimento delle foreste UE sta diminuendo:

- Invecchiamento
- Disturbi (aumento biomassa + età)
- Vulnerabilità ai cambiamenti climatici (aumento magnitudo)

think GLOBALLY, act LOCALLY